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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/605,492

Filing Date: October 02, 2003

Appellant(s): KRUEGER, RALF

Paul Maliszewski
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 13, 2006 appealing from the Office action mailed October 4, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

<http://www.photonics.com/dictionary>

<http://www.m-w.com/cgi-bin/dictionary>

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2872

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 8, 9 and 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilson (US 6,687,052).

Regarding claims 1 and 11-13, Wilson discloses an apparatus for implementing phase-contrast or modulation-contrast observation on microscopes with the aid of a modulator arranged in each pupil plane in the observation beam path (Fig. 1) and containing at least one layer modifying the phase or amplitude (col. 3 lines 26-30), and of a stop arranged in the illumination beam path wherein the modulator is mounted tiltably (col. 3 lines 56-63) and wherein at least a portion of the at least one layer modifying the phase or amplitude is transmissive (Fig. 1).

Wilson further discloses the use of retardation plates (col. 3 lines 18-19) used in combination with polarization modulation. Wilson further discloses a carrier (col. 3 lines 55-63) introducible into the beam path of the microscope and selectively mounted (col. 3 lines 55-63) tiltably mounted. Wilson further discloses the use of a pattern of modulators on the mask (col. 3 lines 26-27), which the examiner interprets as various modulators.

Regarding claim 2, Wilson discloses at least one layer of the modulator is configured in such a way that the greatest possible phase shift is already achieved by a slight tilt (col. 3 lines 56-58).

Regarding claims 8 and 9, Wilson discloses the modulator defines a variable layer configuration (col. 3 lines 25-55). The pattern of modulators on the modulating element (6) is a

variable layer configuration because the modulation of the incident light varies at different locations on the element.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson (US 6,687,052) in view of Kobayashi (US 6,057,894).

Regarding claim 3, Wilson teaches the invention as claimed but lacks reference to the use of a glass layer. Kobayashi teaches the use of a glass layer coupled to a modulator (col. 6 lines 4-25) for the purpose of supporting the modulating layer in a high heat environment. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Wilson invention include the glass layer of Kobayashi for the purpose of supporting the modulating layer in a heated environment, where the heat originates from the LEDs (1 and 8) of the Wilson invention.

Regarding claim 10, Wilson teaches the modulator defines a variable layer configuration (col. 3 lines 25-55). The pattern of modulators on the modulating element (6) is a variable layer

configuration because the modulation of the incident light varies at different locations on the element.

(10) Response to Argument

Applicant argues Wilson does not teach or disclose a stop or an aperture stop within the optical system. Applicant agrees with examiner that the Borchard (US 2004/0212877) reference provided evidences that every lens has a physical aperture that limits the passage of energy. Applicant then argues that there is no information regarding the opening that most limits the passage of energy in the Wilson reference. The applicant does not claim an aperture stop, which would be the opening that most limits the passage of energy; instead applicant merely claims a stop. A stop is anything that limits the passage of energy. As applicant admits on page 7 of Appeal Brief a lens has a physical aperture that limits the passage of energy, therefore a lens functions a stop. Applicant argues that examiner is attempting to expand the definition of a lens. The examiner is merely stating and providing evidence of an inherent property of a lens. A lens can only accept light within a certain range of angles, thus a lens blocks all light not within that range of angles and thereby functioning as a stop. Applicant fails to qualify the type of stop or whether the stop claimed is more limiting than some another stop, therefore a lens as stated in the rejection above meets the claimed limitation and the rejection is proper.

Applicant argues that the Wilson reference fails to teach a tiltable element. Applicant argues that if an element is tiltably mounted the element is capable of being caused to have an

inclination. The examiner agrees; however capable of being caused to have an inclination does not mention nor require any type of dynamic movement of the element. Applicant argues that the Wilson element is fixed and is not capable of being caused to have an inclination. As stated in the Wilson reference the modulator (6) is inclined (col. 6 lines 57-59), therefore at some point the modulator was “caused to have an inclination.” Applicant argues that “capable of being tilted” is a dynamic condition. The term capable only means that an element has the potential to do some act, not that the element is in the process of doing some act. Applicant argues that the specification enables dynamic movement. The specification may enable dynamic movement but no such limitation exists in the claim language. Applicant appears to assert that because the applicant enabled the term tiltable as including dynamic movement in the specification applicant defined how the term was to be interpreted in the claim language. Although applicant is entitled to be his own lexicographer, applicant cannot define a term as being repugnant to the accepted standard definition. Further applicant admits on page 10 of Appeal Brief that “tiltable” does not require dynamic movement, when applicant stated “tiltable’ is not limited to being statically tilted.” The examiner agrees that “tiltable” is not limited to a stationary condition; however for the rejection to be proper the interpretation of “tiltable” as a stationary condition merely needs to be valid. Applicant admits the validity of such an interpretation therefore the rejection is proper.

Applicant argues the modulator is not in the observation beam path. Applicant argues the modulator is in the illumination beam path not the observation beam path. As shown in Fig. 1 of Wilson the modulator is present in both the illumination and observation beam path. The light from sources (1 and 8) contacts the modulator (6) on the way to the object (O). The light is then reflected by the object (O) and returns through the modulator (6) on its way to the camera (7) and

analyzer (10; col. 4 lines 45-46). Therefore modulator is present in the observation beam path.

Applicant argues that the modulator does not modulate the light in the observation beam path.

The claim only requires that the modulator “be arranged in the observation beam path,” there is no mention in the claim language that the modulator must modulate light in the beam path.

However, Wilson provides a teaching of modulating the light in the observation beam path.

Wilson states that the modulator can modulate intensity, phase and polarization (col. 3 lines 29-30). Wilson further states the light incident the object is coded (col. 4 lines 42-43) by the modulator, upon return the modulator decodes the light (col. 4 lines 43-46). The decoding of the light is a modulation of the light from the state it initially contacts the modulator. The modulator taught by Wilson is present in the observation beam path therefore the rejection is proper.

Applicant argues Wilson fails to teach a plurality of modulators arranged on a single carrier. Wilson states the surfaces of the modulator (6a and 6b) are covered with a pattern that modulates spatially over each surface (col. 3 lines 35-37). The modulator body (6) acts as a carrier for the two surfaces (Fig. 1). Two modulators (6a and 6b) constitute a plurality.

Applicant argues Wilson fails to teach the plurality of modulators tiltable individually or tiltable together. The two surfaces (6a and 6b) are integral to the body of the modulator (6). As reasoned above the modulator (6) is tiltable, since the surfaces are integral with the body the surfaces are tiltable together thereby satisfying the claim limitation. The surfaces of the modulator each include a spatially modulated pattern and are carried by the body of the modulator, which is tiltable therefore the rejection is proper.

Applicant argues the remaining claims are dependent from claim 1 and are allowable for the same reasons. As reasoned above claim 1 is not allowable, so this argument is moot.

Applicant argues Kobayashi fails to cure the deficiencies of Wilson. As reasoned above the applicant has not pointed out any deficiencies in Wilson, so this argument is moot.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Joshua L Pritchett



Conferees:

Drew Dunn



Darren Schuberg



DREW A. DUNN
SUPERVISORY PATENT EXAMINER